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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,156	06/19/2003	Hemant Chaskar	882.0004.U1(US)	5814
29683	7590	10/24/2005	EXAMINER	
HARRINGTON & SMITH, LLP 4 RESEARCH DRIVE SHELTON, CT 06484-6212			DUONG, FRANK	
			ART UNIT	PAPER NUMBER
			2666	

DATE MAILED: 10/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/600,156

Applicant(s)

CHASKAR ET AL.

Examiner

Frank Duong

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This Office Action is a response to communications dated 08/19/05 and 09/19/05.

Claims 1-42 are pending in the application.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 33-41 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A "computer program", without a computer-readable medium needed to realize the computer program's functionality, is a nonstatutory functional descriptive material or nonstatutory subject matter.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Xu et al (Mobile IP Based Micro Mobility Management Protocol in The Third Generation Wireless Network, Internet Draft, pages 1-16, November 2000) (hereinafter "Xu").

Regarding **claim 1**, in accordance with Xu reference entirety, Xu discloses a method to perform a low latency inter-technology handoff of a mobile node (MN) from a wireless local area network (WLAN) (*Fig. 1; RNN*) to a cellular network (*Fig. 1; PDSN*) (*see Abstract or Fig. 1 on page 3*), comprising:

transmitting a message from the MN to the WLAN for use by the cellular network, the message comprising information for use in establishing at least one access bearer with the cellular network for an ongoing packet data session of the MN (*page 4, section 4.1 and thereafter, it is disclosed "In a cdma2000 network, the mobile node initiates a connection by sending a call setup indication to the RNN across the radio network. When this indication is received by a RNN, a Registration Request will be sent from the RNN to the PDSN to setup a new RP session"*); and

responding to the receipt of the message with a Router Advertisement message that is forwarded towards the MN (*page 4, section 4.1 and thereafter, it is disclosed "When a Registration Request is received by a PDSN, the information from the Session Specific Extension (see next section) will be used to identify a RP session. When a registration is accepted, a GRE tunnel will be created for this Mobile Node". Moreover, on page 7, section 4.3, it is further disclosed "The registration Reply will be sent by a PDSN"*).

Regarding **claim 27**, in accordance with Xu reference entirety, Xu discloses a data communications system comprising a mobile node (MN) (Fig. 1; MN), a wireless local area network (WLAN) (Fig. 1; RNN) and a cellular network (Fig. 1; PDSN) (see *Abstract or Fig. 1 on page 3*), further comprising:

a transmitter (Fig. 1; MN) for transmitting a message (call setup) from the MN to the WLAN for use by the cellular network, the message comprising information for use in establishing at least one access bearer with the cellular network for an ongoing packet data session of the MN (*page 4, section 4.1 and thereafter, it is disclosed "In a cdma2000 network, the mobile node initiates a connection by sending a call setup indication to the RNN across the radio network. When this indication is received by a RNN, a Registration Request will be sent from the RNN to the PDSN to setup a new RP session"*); and

a unit (Fig. 1; PDSN) to respond to the receipt of the message with a Router Advertisement message that is forwarded towards the MN (*page 4, section 4.1 and thereafter, it is disclosed "When a Registration Request is received by a PDSN, the information from the Session Specific Extension (see next section) will be used to identify a RP session. When a registration is accepted, a GRE tunnel will be created for this Mobile Node"*).

4. Claims 1-6, 23, 26-28, 31-34, 37-40 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Purnadi et al (USP 6,708,031) (hereinafter "Purnadi").

Regarding **claim 1**, in accordance with Purnadi reference entirety, Purnadi discloses a method (Fig. 5) to perform a low latency inter-technology handoff of a mobile node (501) from a wireless local area network (cdma2000) (*Fig. 1*) to a cellular network (GPRS) (*see Abstract or Figs. 1-2*), comprising:

transmitting a message from the MN to the WLAN for use by the cellular network, the message (*authentication extension*) comprising information for use in establishing at least one access bearer with the cellular network for an ongoing packet data session of the MN (*col. 9, lines 5-15, Purnadi discloses mobile station sends an MIP Registration Request message to the WGW including the authentication extension in the Registration request*"); and

responding to the receipt of the message with a Router Advertisement message that is forwarded towards the MN (*col. 9, lines 16-29, Purnadi discloses AuC sends back the MIP Registration Reply message having two authentication extensions to the mobile station via WGW*).

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales discussed above), Purnadi further discloses where the message is piggybacked on another message (*col. 9, lines 6-8, Purnadi discloses mobile station includes the authentication extension (message) in the (piggybacked) Registration Request Message*).

Regarding **claim 3**, in addition to features recited in base claim 1 (see rationales discussed above), Purnadi further discloses where the message comprises information expressive of a QoS requirement of at least one ongoing application of the MN (*col. 6,*

lines 9-11 or it is inherent by Wireless IP Network Standard to include differentiated services behavior indicated in the user's RADIUS profile).

Regarding **claim 4**, in addition to features recited in base claim 1 (see rationales discussed above), Purnadi further discloses wherein the information message comprises information expressive of a unique identity of the MN that is recognizable by the cellular network (*col. 9, lines 10-11 and also see mobile packet zone identifier to GPRS routing area identifier mapping is discussed at col. 6, line 60*).

Regarding **claim 5**, in addition to features recited in base claim 1 (see rationales discussed above), Purnadi further discloses where the message comprises information expressive of parameters to facilitate the creation of a point-to-point protocol state in the cellular network (*col. 10, lines 39-40*).

Regarding **claim 6**, in addition to features recited in base claim 1 (see rationales discussed above), Purnadi further discloses where the message comprises information expressive of parameters to enable establishment of packet filters in the cellular network (*col. 9, lines 28-29, Purnadi discloses security key shared between the mobile station and the AuC. The security key is inherently enable establishment of packet filters in the cellular network*).

Regarding **claim 23**, in addition to features recited in base claim 1 (see rationales discussed above), Purnadi further discloses where the message is sent by the MN in an encrypted form using a shared secret between the MN and a home Authentication, Authorization, Accounting (AAA) function (AuC) of the MN in the cellular network (*col. 9, lines 5-28*).

Regarding **claims 26 and 42**, in addition to features recited in base claim 1 (see rationales discussed above), Purnadi further discloses where the MN transmits the message in response to a change in at least one of WLAN-related signal strength, signal quality and other information (*Routing Area Updated is discussed at col. 6, lines 59-62*).

Regarding **claim 27**, in accordance with Purnadi reference entirety, Purnadi discloses a data communications system (Figs. 1-5) comprising a mobile node (100; 400 or 501) a wireless local area network (cdma2000) and a cellular network (GPRS), further comprising:

a transmitter (100; 400 or 501) for transmitting a message (*MIP Registration Request Message (authentication extension)*) from the MN to the WLAN for use by the cellular network, the message comprising information for use in establishing at least one access bearer with the cellular network for an ongoing packet data session of the MN (*col. 9, lines 5-15*); and

a unit (Fig. 5; WGW) to respond to the receipt of the message with a Router Advertisement message (MIP Registration Reply Message (authentication extensions) that is forwarded towards the MN (*col. 9, lines 16-29*).

Regarding **claim 28**, in addition to features recited in base claim 27 (see rationales discussed above), Purnadi further discloses where the message is piggybacked on another message (*col. 9, lines 6-8, Purnadi discloses mobile station includes the authentication extension (message) in the (piggybacked) Registration Request Message*).

Regarding **claim 31**, in addition to features recited in base claim 27 (see rationales discussed above), Purnadi further discloses where the message comprises information expressive of a QoS requirement of at least one ongoing application of the MN (not explicitly shown; inherent by Wireless IP Network Standard to include differentiated services behavior indicated in the user's RADIUS profile), a unique identity of the MN that is recognizable by the cellular network (*col. 9, lines 10-11 and also see mobile packet zone identifier to GPRS routing area identifier mapping is discussed at col. 6, line 60*), parameters to facilitate the creation of a point-to-point protocol state in the cellular network (*col. 10, lines 39-40*), and parameters to enable establishment of packet filters in the cellular network (*col. 9, lines 28-29, Purnadi discloses security key shared between the mobile station and the AuC. The security key is inherently enable establishment of packet filters in the cellular network*).

Regarding **claim 32**, in addition to features recited in base claim 27 (see rationales discussed above), Purnadi further discloses where the message is received by a Packet Data Support Node (PDSN) (WGW is corresponding to "PDSN") (*col. 6, lines 9-11 and line 48*).

Regarding **claims 33-34**, the claims call for a computer program mirrored the claimed limitations of claims 1-2. Thus, they are rejected by the same rationales applied to claims 1-2 discussed above.

Regarding **claim 37**, in addition to features recited in base claim 33 (see rationales discussed above), Purnadi further discloses where the message comprises information expressive of a QoS requirement of at least one ongoing application of the

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MN (not explicitly shown; inherent by Wireless IP Network Standard to include differentiated services behavior indicated in the user's RADIUS profile), a unique identity of the MN that is recognizable by the cellular network (*col. 9, lines 10-11 and also see mobile packet zone identifier to GPRS routing area identifier mapping is discussed at col. 6, line 60*), parameters to facilitate the creation of a point-to-point protocol state in the cellular network (*col. 10, lines 39-40*), and parameters to enable establishment of packet filters in the cellular network (*col. 9, lines 28-29, Purnadi discloses security key shared between the mobile station and the AuC. The security key is inherently enable establishment of packet filters in the cellular network*).

Regarding **claims 38-39**, the claims call for a computer program mirror the claimed limitations of claims 27 and 32. Thus, they are rejected by the same rationales applied to claims 27 and 32 discussed above.

Regarding **claim 40**, cdma2000 cellular network is depicted in Figure 4.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 7-22, 24-25, 29-30, 35-36 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Purnadi in view of Malki et al (Low Latency Handoff in Mobile IPv4, Internet Draft, pages 1-65, May 2001) (hereinafter "Malki").

Regarding **claims 7-22 and 24-25**, in addition to features recited in base claim 1 (see rationales discussed above), Purnadi fails to further disclose wherein the message is sent in the context of mobile IP messages having Proxy Router Solicitation Request, Proxy Router Advertisement and HI/HACK messages in a manner as recited in the claims. However, such limitations lack thereof from Purnadi is well known and disclosed by Malki.

In accordance with Malki reference entirety, Malki discloses low latency handoffs in Mobile IPv4 having the messages of Proxy Router Solicitation Request, Proxy Router Advertisement (see *Figure 1 on page 14 and the description of message thereof*) and HI/HACK (*page 23, section 3.4.3*) to support delay-sensitive or real-time services (see Malki's abstract).

It would have been obvious to those skilled in the art at the time of invention was made to implement Malki's teaching into Purnadi to arrive the claimed invention with a motivation to support delay-sensitive or real-time services (see Malki's abstract).

Regarding **claims 31-32**, in addition to features recited in base claim 27 (see rationales discussed above), Purnadi fails to further disclose wherein the message is sent in the context of mobile IP messages having Proxy Router Solicitation Request, Proxy Router Advertisement and HI/HACK messages in a manner as recited in the claims. However, such limitations lack thereof from Purnadi is well known and disclosed by Malki.

In accordance with Malki reference entirety, Malki discloses low latency handoffs in Mobile Ipv4 having the messages of Proxy Router Solicitation Request, Proxy Router Advertisement (see *Figure 1 on page 14 and the description of message thereat*) and HI/HACK (page 23, section 3.4.3) to support delay-sensitive or real-time services (see Malki's abstract).

It would have been obvious to those skilled in the art at the time of invention was made to implement's Malki's teaching into Purnadi to arrive the claimed invention with a motivation to support delay-sensitive or real-time services (see Malki's abstract).

Regarding **claim 41**, in addition to features recited in base claim 40 (see rationales discussed above), Purnadi fails to further disclose wherein the message is sent in the context of mobile IP messages having Router Advertisement message comprising a Mobile Node-Foreign Agent challenge extension message in a manner as recited in the claim. However, such limitations lack thereof from Purnadi is well known and disclosed by Malki.

In accordance with Malki reference entirety, Malki discloses low latency handoffs in Mobile Ipv4 having Router Advertisement message comprising a Mobile Node-

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Foreign Agent challenge extension message (*see page 23, first paragraph*) to support delay-sensitive or real-time services (*see Malki's abstract*).

It would have been obvious to those skilled in the art at the time of invention was made to implement's Malki's teaching into Purnadi to arrive the claimed invention with a motivation to support delay-sensitive or real-time services (*see Malki's abstract*).

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-42 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. The prior/related art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jawanda (USP 6,243,581).

Pichna et al (USP 6,904,055).

Bertrand et al (USP 6,876,640).

Choi et al, A Fast Handoff Scheme for Packet Data Service in the CDMA 2000 System, IEEE, pages 1747-1753, 2001.

Parikh et al, Seamless Handoff of Mobile Terminal from WLAN to cdma2000 Network, download at [http://www.nokia.com/library/files/docs/Seamless\\_Handoff\\_of\\_Mobile\\_Terminal\\_from\\_WLAN\\_to\\_cdma2000\\_Network.pdf](http://www.nokia.com/library/files/docs/Seamless_Handoff_of_Mobile_Terminal_from_WLAN_to_cdma2000_Network.pdf)

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Duong whose telephone number is 571-272-3164. The examiner can normally be reached on 7:00AM-3:30PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**FRANK DUONG**  
**PRIMARY EXAMINER**

October 20, 2005